Version with Markings to Show Changes Made

1. (Amended) A liquid composition, [preparable] prepared by copolymerizing olefinically unsaturated compounds in a reaction medium of reactive diluents for thermally curable multisubstance mixtures, [as reaction medium.]

2. (Amended) A homopolymer or copolymer of olefinically unsaturated compounds, [preparable] prepared by copolymerizing the compounds in a reaction medium of reactive diluents for thermally curable multiubstance mixtures, [as reaction medium.]

3. (Amended) A liquid composition [as claimed in] of claim 1 [or homopolymer or copolymer as claimed in claim 2,] wherein compounds selected from the group consisting polyols,[and/or] epoxides and mixtures thereof are used as reactive diluents.

4. (Amended) A liquid composition [or a homopolymer or copolymer as claimed in] of claim 3, wherein the polyols used comprise

(iii) hyperbranched compounds containing a tetrafunctional central group derived from compounds selected from the group consisting of ditrimethylolpropane, diglycerol, [and/or] ditrimethylolethane and mixtures thereof or a tetrafunctional central group of the general formula I

$$C[-A_q-X-]_m[-A_r-x-]_n[-A_s-X-]_o[A_t-X-]_p \qquad (I),$$

in which the indices and variables have the following definitions:

m + n + o + p = 4; where

m is an integer from 1 to 3, and

n, o and p are 0 or an integer from 1 to 3;

q, r, s and t are an integer from I to 5, where $q \geq r, s, t$, [especially $q > r, s, t$];

X is -0-, -S- or -NH-;

A is $-CR_2-$; where

R is -H, -F, -Cl, -Br, -CN, $-NO_2$

C_1-C_3 alkyl or haloalkyl or C_1-C_3 alkoxy radical or, if q, r, s and/or t are at least 2, R is selected from the group consisting of a C_2-C_4 alkanediyl, [and/or] oxaalkanediyl radical having 2 to 5 carbon atoms, [and/or] an oxygen atom -O- which bridges from 3 to 5 carbon atoms of the radical -A- and mixtures thereof;

(ii) cyclic and/or acyclic C_9-C_{16} alkanes

functionalized with at least[o] two hydroxyl groups or at least one hydroxyl group and at least one thiol group;

(iii) polyols [obtainable] obtained by hydroformylating oligomers of the formula (III),

$$[R^3R^4C=[=CH-R^2-CH=]_v=CR^5R^6\ ]\qquad R^3R^4C=[CH-R^2-CH]_v=CR^5R^6 \text{ (III)},$$

in which R^2 is $-(-CH_2-)_w-$,

in which the index w is an integer from 1 to 6, or

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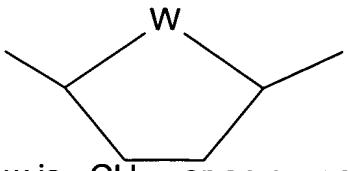

in which w is $-CH_2-$ or an oxygen atom;

R^3, R^4, R^5 and R^6 independently of one another are hydrogen atoms or alkyl; and the index v is an integer from 1 to 15.

5. (Amended) A liquid composition [or a homopolymer or copolymer as claimed in] of claim 4, wherein

- the polyols used comprise
- (i) hyperbranched compound [obtainable] obtained by reacting 2,2-bishydroxymethylbutane-1,4-diol with phthalic anhydride and then reacting the resultant intermediate with glycidyl esters of tertiary, highly branched, saturated monocarboxylic acids,

- the polyols (ii) used comprise dialkyloctanediols, [especially diethyl- octanediols,] and

- the polyols (iii) used comprise hydroformylated and hydrogenated oligomers, [obtainable] obtained by metathesis from acyclic monoolefins and cyclic monoolefins, hydroformylation of the -resultant oligomers and subsequent hydrogenation, the cyclic monoolefin used comprising cyclopentene and the acyclic monoolefins used comprising hydrocarbon mixtures obtained in petroleum processing by cracking (C_5 cut), and the polyols (iii) having a hydroxyl number (OHN) of from 200 to 60, [in particular from 250 to 450,] a number-average molecular weight M_n, of from 400 to 1 000, [in particular from 400 to 600,] a mass-average molecular weight M_w, in the range from 600 to 2 000, [in particular from 600 to 1100,] and a polydispersity M_n/M_w, from 1.4 to 3.[, in particular from 1.7 to 1.9.]

6. (Amended) A liquid composition [or a homopolymer or copolymer as claimed in] of claim 3, wherein the reactive diluents containing epoxide groups comprise

(iv) glycidyl ethers of polyols or polyphenols such as glycerol, diglycerol, glucitol, erythritol, pentaerythritol, dipentaerythritol, trimethylolpropane,

trimethylolethane, ditrimethylolpropane, ditrimethylolethane, tetrakis(2-hydroxyethyl)ethane, tetrakis(3- hydroxypropyl)methane, the tetraols II1 to II10:

HO- $(-CH_2-)_2$-C $(-CH_2-OH)_3$,
(II1)

HO - $(-CH_2-)_3$C $(-CH_2-OH)_3$,
(II2)

HO- $(-CH_2-)_4$-C $(-CH_2-OH)_3$,
(II3)

HO- $(-CH_2-)_5$-C $(-CH--OH)_3$,
(II4)

$[HO-(-CH_2-)_2-]_2C(CH_2-OH)_2$,
(115)

$[HO-(-CH_2-)_2-]_3C-CH_2-OH$,
(II6)

HO- $(-CH_2-)_3$-C$[-(-CH_2-)_2-OH]_3$,
(II7)

HO- $(-CH_2-)_3$-C$[-(-CH_2-)_2-OH]_2$ $(-CH_2-OH)$
(II8)
HO- $(-CH_2-)_4$-C $(-CH_2-OH)[-(-CH_2-)_2-OH][-(-CH_2-)_3-OH]$ or
(II9)

HO- $(-CH_2-)_5$-C $(-CH_2-OH)[-(-CH_2-)_4-OH]$ 2
(II10);

the polyols (i), (ii) and (iii), pyrocatechol, resorcinol, hydroquinone, pyrogallol, phloroglucinol, (p-hydroxy- phenyl)phloroglucinol, 5-(7-hydroxynaphth-l-yl)pyrogallol, bisphenol F, bisphenol A or novolaks;

(v) low molecular mass epoxy resins or oligomers which contain glycidyl-containing monomers (A6) in copolymerized form;

(vi) glycidyl esters of Versatic® acid;

(vii) epoxy resin esters of saturated and unsaturated fatty acids; [(epoxidized oils);]

and[/or]

(viii) epoxidized triglycerides of natural oils and esters, and mixtures thereof.

7. (Amended) A liquid composition [as claimed in, any of claims 1 or 3 to 6 or a homopolymer or copolymer as claimed in any of claims 2 to 6, preparable] prepared by homopolymerization or copolymerization of olefinically unsaturated monomers in a Taylor reactor having an external reactor wall located within which there is a concentrically or eccentrically disposed rotor, a reactor floor and a reactor lid, which together define the annular reactor volume, at least one means for metered addition of reactants, and a means for the discharge of product, where the reactor wall and/or the rotor are or is geometrically designed in such a way that the conditions for Taylor vortex flow are met over substantially the entire reactor length in the reactor volume,[i.e.] in such a way that the annular gap broadens in the direction of flow traversal.

8. (Amended) A process for preparing a liquid composition [or a homopolymer or copolymer of olefinically unsaturated compounds] by free-

radical copolymerization in a liquid reaction medium, which comprises using , as the reaction medium, reactive diluents for thermally curable multisubstance mixtures. [as the reaction medium.]

9. (Amended) The process as claimed in claim 8, wherein a fraction of the reactive diluents is modified after the copolymerization with olefinically unsaturated compounds, [especially with monomers (A2), (A5) and/or (A6),] so that the resulting liquid composition is curable by means selected from [both] thermal[ly], [and] by actinic light, and[/or] electron beams, and mixtures thereof .

10. (Amended) The process as claimed in claim 8 [or 9], conducted in a Taylor reactor having an external' reactor wall located within which there is a concentrically or eccentrically disposed rotor, a reactor floor and a reactor lid, which together define the annular reactor volume, at least one means for metered addition of reactants, and a means for the discharge of product, where the reactor wall and/or the rotor are or is geometrically designed in such a way that the conditions for Taylor vortex flow are met over substantially the entire reactor length in the reactor volume, i.e. in such a way that the annular gap broadens in the direction of flow traversal.

REMARKS

Upon entry of the present amendment claims 1-10 are pending in the application. Claim 11 has been canceled without prejudice. Claims 1-10 have been amended in accordance with the requirements of U.S. patent practice. New claims 12-30 add no new matter, as these claims contain subject matter deleted from the amended claims. Applicants respectfully request entry of the preliminary amendment.

Respectfully Submitted,

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